

CLAIMS

What is claimed is:

- Sub 7
1. A permanent magnet synchronous motor comprising a stator and a permanent magnet excited rotor, said stator including a winding which has cyclically repeating winding factors $|\xi_p| = 0.945$, $|\xi_{5p}| = 0.140$, and $|\xi_{7p}| = 0.060$, and a skew angle $\gamma = \frac{2\pi}{18p}$, wherein p is the number of pole pairs.
 2. The synchronous motor of claim 1, wherein the winding is a 4-pole two-layer winding, and the stator has a slot number $N = 9$ slots.
 3. The synchronous motor of claim 1, wherein the winding includes prefabricated coils.
 4. The synchronous motor of claim 1, wherein the stator includes a laminated core with a slot skew of at least half a slot pitch.
 5. The synchronous motor of claim 1, wherein the rotor has an outer circumference and includes permanent magnets which are arranged on the outer circumference of the rotor.
- Sub B3

6. The synchronous motor of claim 1, wherein the rotor includes permanent magnets which are arranged interiorly of the rotor.